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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/733,169
Filing Date: December 11, 2003
Appellant(s): ZHOU ET AL.

Alan R. Marshall
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/26/09 appealing from the Office action mailed 9/19/08

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct. It is noted that claim 49 was inadvertently omitted from the claim listing in paragraph 3 of the final rejection, but the substance of the claim, (that the thread is an elastic thread) was treated in the rejection.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

WO 93/02610	Funch	2-1993
EP 0066463	Unilever NV	12-1982
EP 1212974	Clarke et al	6-2002
20030029895	Prodoehl et al	02-2003
4704321	Zafiroglu	11-1987

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 7, 12, 18, 21-22, 26, 29, 35-36, 43-44, 47, 48, 50-51, 53, 56-57, 62 are rejected under 35 U.S.C. 103 (a) as being obvious over WO 93/02610 in view of EP 1,212,974. WO 93/02610 discloses a cleaning material comprising a plurality of plies of absorbent substrates which are stacked and separated from each other by plastic sheets. See Page 3, lines 7-39; page 4, lines 1-5 and figures. The separate absorbent layers can be individually removed by pulling by a user and therefore they are releasably attached. The layers are absorbent and can be made of tissue paper or other natural or synthetic absorbent materials. See page 5, lines 1-4. WO '610 differs from the claimed invention because it does not teach that the stacked, releasably attached absorbent structures further comprise an abrasive layer and does not teach the addition of cleaning elements, the use of stitching as the means of releasably attaching the plies or the presence of perforations in the structure. EP '974 discloses a scrubbing sheet comprising an absorbent material and a plurality of plies of a scrubbing material. The plies may be stitched to the absorbent material. The absorbent material can comprise

nonwovens and papers and can be formed from natural or synthetic fibers. EP '974 teaches that cleaning sheets which comprise a plurality of nonwoven layers can comprise meltblown webs, coforms, spunbondeds, carded web, as well as air laid and wet laid webs. Cellulosic layers can be used as the cleaning layers, while synthetic polymers can form the scrubbing layers. See paragraphs 0011 – 0026. EP '974 teaches that besides heat and adhesive bonding that stitching can also be used to bond the layers of the cleaning sheet together. See paragraph 0026. The cleaning sheet can comprise various additives such as cleansers, skin conditioners, etc. See paragraphs 0027-0039. The scrubbing layers can be reversibly attached to the absorbent layers and can be superimposed on each other or on different sides of the absorbent layer. See paragraph 0025-0026. Perforations would necessarily be present in the layers due to the stitching which would form holes due to the needle passing through the layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added an abrasive synthetic polymer layer to some or all of the absorbent plies of WO '610 as taught by EP '974, with the expectation that this would further enhance the cleaning and scrubbing properties of the cleaning material. It further would have been obvious to have employed stitching as the means of releasably securing the plies together, since EP '974 teaches that this is a means of securing plies in an absorbent structure and to have added the particular cleaning and conditioning components taught by EP '974, in view of their suitability for the intended purpose. With regard to claim 29, which claims a substrate around which the plies of absorbent and abrasive materials are wrapped, official notice is taken that it is known in the art to wrap

plies of cleaning sheets in roll form, for example as in rolls of paper towels, baby wipes, etc.

Claims 5-6, 23-25, 27-28, 30-31. 41-46, 49, 52, 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/02610 in view of EP 121974 as set forth above, and further in view of Prodoehl et al, US Patent Application Publication 2003/0029895 and Zafiroglu, U.S. Patent No. 4,704,321. WO '610 and EP '974 disclose a cleaning sheet as set forth above. WO '610 differs from the claimed invention because it does not disclose stitching at the periphery, although it does disclose joining the layers at the edges or periphery, and does not disclose the claimed basis weights and fiber size of the layers. Prodoehl discloses a cleaning sheeting comprising an absorbent core layer which may comprise multiple plies of a material such as cellulosic fibers and which may have a basis weight of 100-2000 gsm. The fibers can have a high surface area. See paragraphs 0035 –0045. A scrubbing layer is disposed on the absorbent core layer. The scrubbing layer can comprise a plurality of plies of material and can comprise fibers having a diameter of 0.1-1 mm and a basis weight of 7-120 gsm. See paragraphs 0025 – 0039. The layers can be stitched at the periphery. See paragraph 0070. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the particular types of fibers for the absorbent and scrubbing layers as taught by Prodoehl, as well as the basis weights and stitching configuration, motivated by the teaching of Prodoehl, that these elements were useful in forming scrubbing implements having an absorbent core. With regard to the limitation that the thread is an elastic thread, while both references

teach stitching the layers to bond them, both are also silent as to the particular type of thread to employ to stitch the layer. However, Zafiroglu teaches that it was known in the art to use elastic thread nonwoven absorbent layers for use as wipes. See abstract. Therefore, it would have been obvious to one of ordinary skill in the art to have employed the elastic thread taught by Zafiroglu to perform the stitching, in view of the art recognized suitability of elastic threads for the purpose of stitching wipes. Further, it is noted that the prior art references establish that the use of elastic thread to stitch wipes was known in the art and therefore, the known elastic thread could have been combined with the structure of WO '610 with a predictable result.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/02610 in view of EP 121974 as set forth above, and further in view of EP 0066463. EP '974 and WO '610 disclose a cleaning sheet as set forth above. Neither WO '610 nor EP '974 teach aperturing the sheet. EP '463 discloses a cleaning sheet comprising a plurality of plies of cellulosic material. An interlayer of an impermeable film can be placed between the cellulosic plies. See page 4, lines 32-34; page 5, lines 22-32. The layers can be joined by bonding. See page 8, lines 1-19. The plies of cellulosic material comprise a plurality of perforations. The perforations have a size of 0.01-1.2 mm. The perforations are distributed at a rate of 0.5-5 perforations per square centimeter. See page 9, lines 1-13. The apertures can extend through less than the entire thickness of the cleaning sheet. See page 6, lines 9-12. The perforations can extend from one or both sides of the cleaning sheet. See page 8, lines 28-32. One side of the cleaning sheet can comprise a plurality of abrasive structures such as fibers

which are bonded to one of the cellulosic plies. Suitable materials for the abrasive fibers include polystyrene, polymethyl methacrylate and polyvinyl chloride. See page 10, lines 15-26. The cleaning sheet may be impregnated with various additives such as soap, detergent, disinfectants, skin treatments, etc. See page 3, lines 11-16. The size and depth of the perforations can be controlled to allow for a metered release of the added components. See page 3, lines 17-23. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added perforation to the sheets of WO '610 and EP '974, motivated by the teaching of EP '463 that this would allow the additives such as detergents, etc., to be released from the cleaning sheet in a metered dose.

(10) Response to Argument

In response to Appellant's argument that neither reference teaches the alternating stack of abrasive and absorbent layer, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, WO '610 teaches the stacked plies of absorbent layer which are attached so as to be removable. While WO '610 does not teach providing an abrasive layer on the absorbent layer, EP '974 clearly teaches that absorbent, disposable scrubbing sheets can be formed so that they comprise an abrasive scrubbing layer on one or both sides

in order to further enhance the cleaning and scrubbing abilities of the cleaning sheets. Therefore, the person of ordinary skill in the art would have been able to apply this teaching of EP '974 to the invention of WO '610 by supplying the absorbent layers of WO '610 with the abrasive layers. Appellant argues that combining the particular embodiments of EP '974 physically with the physical structure of WO '610 would not lead to the claimed structure, however, as set forth above, the combined teachings of the two references would have led the ordinary skilled artisan to supply the absorbent layers in WO '610 with abrasive layers on one side in order to provide the absorbent layers of WO '610 with more scrubbing and cleaning abilities.

Appellant argues that there is no rationale to combine the teachings of WO '610 and EP '974. However, WO '610 teaches a stack of releasably attached cellulosic, absorbent plies for use in cleaning. EP '974 teaches that including a more abrasive layer on one side of cellulosic, absorbent plies used for cleaning adds additional functionality to the cleaning sheets by making one side have better scrubbing abilities by including the more abrasive layer of synthetic fibers. Therefore, the rationale for combining the teachings of the two references is to impart the additional scrubbing functionality to the cleaning plies of WO '610.

With regard to claim 29, Appellant argues that the preamble limits the claim because it serves to limit the structure of the claim. However, in claim 29, the claim recites a scrubbing product in the preamble. This is the same preamble which is found in all the claims. To recite a scrubbing product does not structurally limit the claim. Further, the references teach a scrubbing product. To recite that the scrubbing layers

are wrapped around a substrate does not require that the scrubbing product be used in this form. Further, a roll of paper towels could be used as a scrubbing product by using the roll itself rather than by separating individual towels or wipes from the roll, even though the use would be awkward. The claims do not recite how the material is used and are not drawn to a method of using a scrubbing product. The products of WO '610 and EP '974 are scrubbing products. The products could be configured in a roll form as is conventionally done with paper towels, wipes, etc. The claims recite the claimed structures configured in a roll. They do not recite how the material is used.

Appellant asserts that the dependent claims are patentable for the reasons set forth with respect to the independent claims and does not advance additional arguments with respect to these claims.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Elizabeth M. Cole/

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QAS, TC1700